CLINICAL CONFERENCE

FROM THE LOS ANGELES COUNTY GENERAL HOSPITAL SERVICE OF THE UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE

DOCTOR CLARENCE J. BERNE:* The patient to be considered today has a common disease with a few unusual features. Important problems in this type of case are being dealt with daily by many general surgeons. Doctor Blatherwick will present the case history.

Presentation of the Case by the Resident, Doctor Norman Blatherwick:

This 21-year-old white housewife entered the hospital because of attacks of pain in the right upper quadrant of the abdomen.

Three months ago she was delivered of a full term child. The pregnancy and delivery were normal. Soon afterward, the attacks of sudden severe pain began, frequently after a fatty meal. The pain was located along the right costal margin and radiated to the angle of the scapula on the same side. Nausea and vomiting accompanied the attacks. There was intolerance to fatty foods. The family physician had seen her in several attacks, and he had given morphine with relief of pain. She stated that possibly on one occasion the stools were light and the urine dark after an attack. Jaundice was denied. However, at the time of her first visit to the out-patient clinic one week before admission, there was mild but definite jaundice. The past medical and family histories were otherwise uninformative. She had taken no hepatotoxic medication.

Physical examination revealed a well nourished young woman of the sthenic type. No icterus could be made out. The physical findings were all quite normal. Particularly, the liver, spleen and right kidney could not be felt and there was no tenderness in the upper abdomen. The temperature, pulse and respirations were normal. The blood pressure was 108 mm. of mercury systolic, 70 mm. of mercury diastolic. The hemoglobin was 90 per cent and the leucocyte count 9,250 per cu. mm. with 75 per cent neutrophiles. No abnormalities were found in the urine. Serologic tests for syphilis were negative. The icteric index was 7 units two days following admission and 11 units a few days later. The blood prothrombin determination was normal. The blood cholesterol was 235 mg. per 100 cc. The serum albumin was recorded as 4.2 gm. and the serum globulin as 1.2 gm. per 100 cc.

DOCTOR BERNE: We will ask Doctor Pattison to discuss the diagnosis on the basis of the record up to this point.

DOCTOR ARTHUR C. PATTISON:* The history of this patient's disease breaks down readily into two phases: the first is of pain characteristic of biliary colic associated with qualitative dyspepsia between attacks, the second is the appearance of jaundice. Although attacks of biliary colic may occur without calculi being present, the appearance of jaundice makes it necessary to conclude that common duct involvement has occurred, and the most likely explanation is that one or more calculi have entered the common duct. When the clinical picture is correlated with the recent pregnancy, one of the most important known etiologic factors in cholelithiasis is added. The manner in which pregnancy influences the development of gall stones is not known, but it is probably involved with cholesterol metabolism more than it is related to stasis. Because this patient's description of her pain is so typical of biliary colic, and because of the secondary appearance of transient jaundice, I believe that a diagnosis of cholelithiasis is justified.

Cholelithiasis in the young may be conditioned by another factor, the excessive excretion of bilirubin seen in the presence of familial hemolytic icterus. There is no familial history of jaundice in this patient, no attacks of jaundice preceded the attacks of pain, and there is no anemia. Further blood studies, including erythrocyte fragility tests, would be necessary to exclude such a possibility completely. Other lesions capable of producing the syndrome presented by this patient may now be considered. It could result from a duodenal ulcer located low in the second portion of the duodenum, and involving the papilla of Vater. Inflammation in a peri-Vaterian duodenal diverticulum could produce such a picture. Both lesions are quite rare, however, and an upper gastro-intestinal x-ray study would be necessary to establish such diagnoses. We have seen instances of pseudobiliary colic in cirrhosis of the liver which have closely simulated biliary colic. Although the jaundice would be consistent with cirrhosis, the history, physical findings and laboratory studies in this case all fail to suggest the presence of cirrhosis.

Renal colic may closely resemble biliary colic, but the bedside differentiation at the time of an attack usually is not difficult; of course, at this time the presence of jaundice is a deciding factor in favor of the biliary tract lesion. Jaundice may

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occur secondary to pyelonephritis, presumably as the result of a secondary hepatitis, but is quite rare. A much greater problem in young people is the differentiation between obstruction of the common duct and primary hepatitis, particularly the infectious hepatitis due to virus infection (formerly called catarrhal jaundice). The sporatic atypical case of infectious hepatitis may, like syphilis of the liver, simulate many lesions of the biliary tract and must be diagnosed laboriously by exclusion, and waiting. Fortunately vitamin K has made the waiting much safer. In this case the intensity of the pain, and its occurrence dissociated from the jaundice would reasonably exclude infectious hepatitis, and the same may be said for toxic hepatic injury. One might ask whether or not there is enough evidence of liver disease to make us call upon the laboratory for more help. It seems that there is not. It becomes apparent that our differential diagnosis has presented no other condition that seems likely.

Consideration should next be given to the x-ray studies. They will be reported by Doctor Blatherwick and discussed by Doctor Berne.

DOCTOR BLATHERWICK: The gall bladder is well visualized, its size and position are normal for the patient's habitus; there are no filling defects, and there is good emptying after the fat meal.

DOCTOR BERNE: In cases with clinical pictures similar to this a presumptive diagnosis of gall bladder disease with calculi would be arrived at by most clinicians. The difficulty is the presence of a normal cholecystogram. With this diagnostic procedure false-positive tests are the most common error, and the cause usually can be identified by a check on the factors of assimilation, liver function and radiologic technique. Priodax has been a significant contribution to the reduction in the size of this false-positive group. A false-negative test, however, must usually be checked entirely on clinical grounds. Two important conditions in which false-negative tests occur are cholesterosis of the gall bladder and the cholelithiasis of the parturient primipara. In the latter instance it is usual for the calculi to be millet sized, not numerous, and be contained in a gall bladder otherwise normal. The same situation can occur, of course, at other ages and in the opposite sex, but it is particularly likely in women of this patient's status. The usual radiologic technique may show a normal gall bladder and no calculi. But if the film be made with the patient standing, enough calculi may gravitate and pile up in the fundus to enable their detection. Awareness of this fact may, if coupled with a strong clinical conviction, furnish the clinician a basis for securing such films. Further, if the upright films are negative, one must be prepared, under such circumstances, to advise operation. In this case we have such a situation and surgical treatment is therefore advised.

There exists a second consideration of importance; the "yellow flag" has been raised. It, therefore, becomes mandatory to assume that a common duct lesion, almost certainly a calculus, does exist or has existed. When jaundice occurs as the result of gall stones, it must be assumed that the common duct is involved. This patient's common duct must be explored at the time of surgery. Negative palpation will not alter this responsibility. Surgery for gall stones is biliary tract surgery, not gall bladder surgery. Many of the most experienced surgeons now open the common duct on nearly half their cases of cholecystectomy and find stones in half the ducts so explored. Every surgeon who operates for gall bladder disease must be keenly aware of the indications for choledochotomy. It has been said that the bugbear of gastroenterostomy is jejunal ulcer; it might also be said that the bug-bear of cholecystectomy is the overlooked common duct stone. Such a stone may not produce jaundice until the patient has recovered from a cholecystectomy.

Such principles must be applied in the case we have today. It might be argued that further observation or studies are indicated. Waiting will invite complications. This patient's situation is so typical that in our opinion it is wisest to make the diagnosis of cholelithiasis on clinical grounds and advise surgery.

Relative to the surgical treatment of cholelithiasis much can be heard regarding poor results. One of the potent causes of poor results is procrastination. Between attacks the patient may be well. Both the patient and the doctor may gamble on avoiding recurrence. We must realize that once stone migration is attempted, the process is basically progressive. With progression, complications develop. These may involve the liver, the ducts, and the pancreas as well as the gall bladder. The more extensive the involvement becomes, the less reversible is the process. Ideal results are most possible if surgery can be done before complications have developed, and therefore surgery is clearly indicated when attempted migration has been diagnosed.

Another important factor in determining poor results is the failure to do a complete and meticulous exploration of the entire abdomen including the esophageal hiatus area as soon as the abdomen is opened. The resultant failure to detect co-existing undiagnosed lesions often results in their effects being attributed to failure of the biliary tract surgery. A third group of poor results are dependent upon technical accidents at the time of cholecystectomy, conditioned by the presence of severe pathologic change or the presence of anomalies. In regard to the anomalies, it is a rare surgeon who can remember them all. Every case should be approached as though it presented an unknown anatomical arrangement and nothing should be clamped or cut or tied until it has been positively identified.

One other phase of treatment may be mentioned as it applied to this case. Exploration of the choledochus will require that drainage of it be established with a T-tube. Before removal of the tube, cholangiography will be done by the injection of lipiodol down the tube under fluoro-

scopic observation. Nitroglycerin will be given sublingually just before the injection. Free flow into the duodenum, with no filling defects in the duct, will give assurance that removal of the tube can be safely carried out. If a calculus is found, having been undetected at the time of surgery, we will resort to Best's regime. If that fails, Pribram's method of ether injection may be cautiously tried. If the calculus is still not dislodged reoperation will be postponed for some time and the Best regime will be repeated frequently.

FOLLOW UP NOTE

At the time of operation the gall bladder was found to be grossly normal. It contained about 20 calculi the size of wheat grains. One 5 mm. stone was present in the common duct. Microscopic study of the gall bladder wall revealed subserosal thickening and round cell infiltration of the mucosa. The convalescence was satisfactory. Cholangiogram was negative. Six weeks after discharge the patient was seen in out-clinic and was free of her previous symptoms.

ARMY PHYSICIAN FINDS PENICILLIN EFFECTIVE FOR SORE THROAT

After studying 28 soldier-patients in the Hawaiian Islands, Capt. Selvan Davison, Medical Corps, Army of the United States, concludes that penicillin has a definite place in the treatment of acute sore throat.

Writing in the July 27 issue of *The Journal of the American Medical Association,* Captain Davison says that while penicillin gave good results in all of the acute sore throat cases which he treated, it was found especially effective in patients whose illness was due to the germ called hemolytic streptococcus. This germ is implicated in a large number of acute sore throat cases.

Captain Davison states that he undertook his study because doctors forever are seeking an ideal therapeutic measure which will obtain rapid and complete cure for sore throat.

The army physician quotes one investigator who previously had treated 28 cases of acute sore throat with penicillin, using 15,000 units every four hours, day and night. In this study, it was found that cases treated for less than six days with 15,000 unit dosages of penicillin showed comparatively poor results because of frequent relapses; yet patients treated for six full days showed excellent results.

Captain Davison says that on the basis of the previous investigation, he studied the possibility of giving a shorter but more intensive course of penicillin treatment.

All of Captain Davison's patients were young adults with no complicating diseases. No patients were treated who had been ill for more than 48 hours.

Penicillin was administered in the amount of 20,000 units every three hours, day and night, by intramuscular injection. The average total dosage of penicillin was 360,000 units over a period of 54 hours.

There was only one relapse, in which recovery occurred without further penicillin. One case did not respond until sulfadiazine replaced penicillin as the treatment.

Most of the patients showed complete recovery in two or three days. The patients from whom no bacteria were obtained displayed normal throats in an average of under four days.

"It must be remembered," Captain Davison writes, "that the periods of time noted are the upper limits. Disappearance of symptoms and of signs means complete absence. There had to be not the slightest pain on swallowing nor any remaining exudate or inflammation before a time element was established."